

Amendment dated

Reply to Office Action of March 28, 2008

AMENDMENTS TO THE CLAIMS

- 1.(previously presented) An optical device package structure comprising:
 - an optical device;
 - a lead frame having a mounting portion on which the optical device is mounted and a lead portion electrically connected to the optical device;
 - a wire placed on a side of the lead frame on which side the optical device is mounted and electrically connecting the optical device with the lead portion;
 - a first resin transmissive to light and through which light incident on or emitted from the optical device passes; and
 - a second resin at least part of which is placed on the side of the lead frame on which the optical device is mounted, the second resin sealing the optical device and the wire and having a coefficient of linear expansion lower than that of the first resin.
2. (withdrawn) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein the crack prevention structure comprises:
 - a bent portion provided at the lead portion of the lead frame and bent toward the side on which the optical device is mounted;
 - a portion of the second resin located on the side opposite from the side on which the optical device is mounted with respect to the bent portion; and
 - an end portion of the first resin put in contact with the portion of the second resin.
3. (withdrawn) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein the crack prevention structure comprises:
 - a recess portion provided at the lead portion of the lead frame and having a concavity on the side opposite from the side on which the optical device is mounted;
 - a portion of the second resin located inside the recess portion; and

an end portion of the first resin put in contact with the portion of the second resin.

4. (withdrawn) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein the crack prevention structure comprises:

a bent portion provided at the lead portion of the lead frame and bent toward the side on which the optical device is mounted; and

an end portion of the first resin having an end surface that is aligned with an edge of the bent portion.

5. (withdrawn) The optical device package structure as claimed in claim 4, wherein

the end surface of the end portion of the first resin is roughly flush with a surface of the bent portion located on the side opposite from the side on which the optical device is mounted.

6. (currently amended) The optical device package structure as claimed in claim 1, wherein

the second resin is a material that can be formed by transfer molding.

7. (previously presented) The optical device package structure as claimed in claim 1, wherein

the second resin contains no mold release agent.

8. (previously presented) The optical device package structure as claimed in claim 1, wherein

the first resin contains filler that reduces the coefficient of linear expansion of the first resin.

9. (withdrawn) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein
the crack prevention structure comprises the first resin,
the first resin has a lens portion that collects light incident on or emitted from the optical device and a base portion that is continuous to the lens portion, and
the base portion has a thickness of not greater than 0.5 mm.

10. (previously presented) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein

the crack prevention structure comprises the first resin, and
the first resin has a lens portion that collects light incident on or emitted from the optical device and a base portion continuous to the lens portion and has an area smaller than an area of the mounting portion of the lead frame when viewed from a direction of emission or incidence of the light.

11. (previously presented) The optical device package structure as claimed in claim 10, wherein

the base portion has a thickness smaller than a thickness of the lens portion.

12. (previously presented) The optical device package structure as claimed in claim 10, wherein

the second resin has a part placed on the side opposite from the side of the lead frame on which the optical device is mounted, and the part of the second resin is placed at least in a part of a portion other than the portion of the lead frame where the first resin is placed.

13. (withdrawn) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein

the crack prevention structure comprises the first resin, and

the first resin has a lens portion that collects light incident on or emitted from the optical device and a base portion continuous to the lens portion (8a) and is bonded to at least the lead frame with an adhesive material.

14. (withdrawn) The optical device package structure as claimed in claim 13, wherein

the adhesive material contains a resin that has a glass transition point lower than a lowest storage temperature.

15. (withdrawn) The optical device package structure as claimed in claim 13, wherein

the adhesive material contains a resin that has a curing point of not lower than a lowest storage temperature and not higher than a highest storage temperature.

16. (withdrawn) The optical device package structure as claimed in claim 1, further comprising a crack prevention structure preventing the first resin from cracking, wherein

the crack prevention structure comprises the first resin, and

the first resin has a plurality of lens portions that collect light incident on or emitted from the optical device and a plurality of base portions continuous to the respective lens portions, and the plurality of combined lens portions and base portions are mutually separated.

17. (withdrawn) The optical device package structure as claimed in claim 1, wherein

the first resin is disposed on a side opposite from the side of the lead frame on which the optical device is mounted, and

the mounting portion of the lead frame has an aperture through which the light incident on or emitted from the optical device passes.

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18. (new) The optical device package structure as claimed in claim 1, wherein at least an outer end portion of the lead portion of the lead frame projects in a non-supported manner outwardly from both the first resin and the second resin.

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